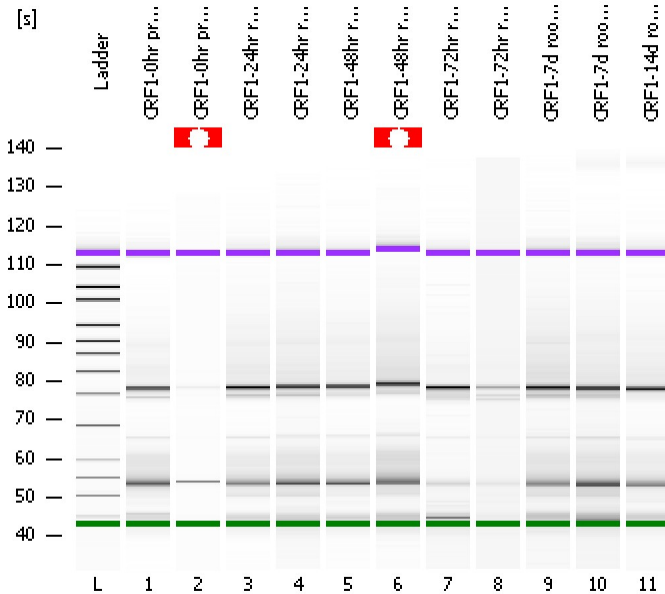


Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electrophoresis File Run Summary**



Instrument Information:

Instrument Name: DE13701086      Firmware: C.01.069  
 Serial#: DE13701086      Type: G2938B

Assay Information:

Assay Origin Path: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\assays\dsDNA\High Sensitivity DNA.xsy  
 Assay Class: High Sensitivity DNA Assay  
 Version: 1.03  
 Assay Comments: Copyright © 2003-2010 Agilent Technologies

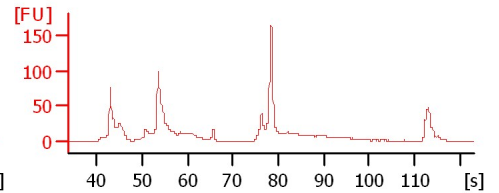
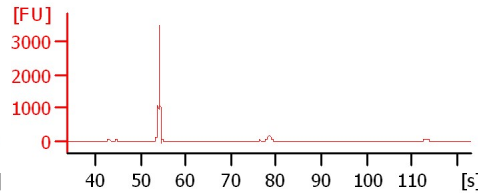
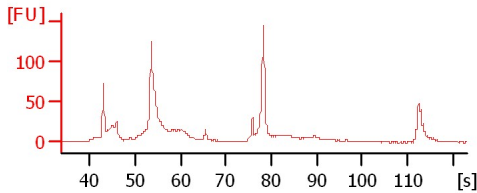
Chip Information:

Chip Lot #:      Reagent Kit Lot #:      Chip Comments:

CRF1-0hr pre root cont 1

CRF1-0hr pre root cont 2

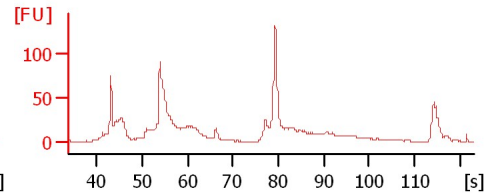
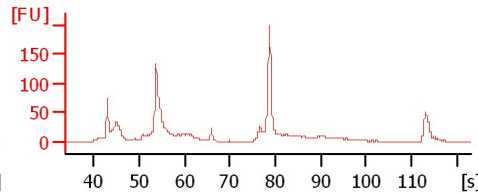
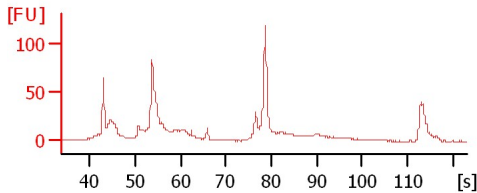
CRF1-24hr root cont 1



CRF1-24hr root cont 2

CRF1-48hr root cont 1

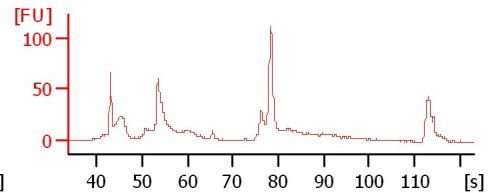
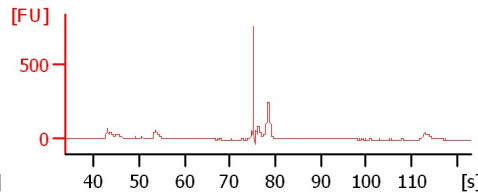
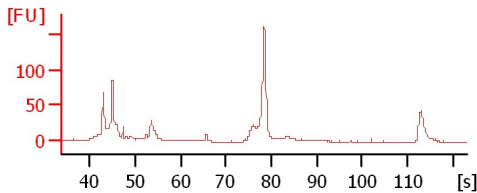
CRF1-48hr root cont 2



CRF1-72hr root cont 1

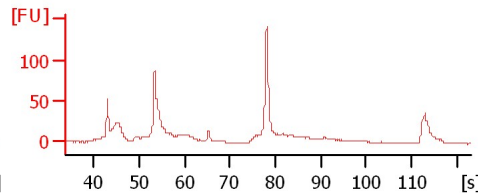
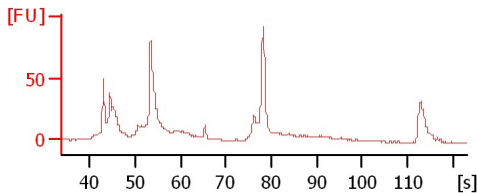
CRF1-72hr root cont 2

CRF1-7d root cont 1



CRF1-7d root cont 2

CRF1-14d root cont 1



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
Modified: 3/21/2012 2:58:03 PM

**Electrophoresis File Run Summary (Chip Summary)**

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
CRF1-0hr pre root cont 1		<input type="checkbox"/>				
CRF1-0hr pre root cont 2		<input type="checkbox"/>				
CRF1-24hr root cont 1		<input type="checkbox"/>				
CRF1-24hr root cont 2		<input type="checkbox"/>				
CRF1-48hr root cont 1		<input type="checkbox"/>				
CRF1-48hr root cont 2		<input type="checkbox"/>				
CRF1-72hr root cont 1		<input type="checkbox"/>				
CRF1-72hr root cont 2		<input type="checkbox"/>				
CRF1-7d root cont 1		<input type="checkbox"/>				
CRF1-7d root cont 2		<input type="checkbox"/>				
CRF1-14d root cont 1		<input type="checkbox"/>				
Ladder		<input type="checkbox"/>				

**Chip Lot #**

**Reagent Kit Lot #**

**Chip Comments :**

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
Modified: 3/21/2012 2:58:03 PM

**Electrophoresis Assay Details**

**General Analysis Settings**

Number of Available Sample and Ladder Wells (Max.) : 12  
Minimum Visible Range [s] : 32  
Maximum Visible Range [s] : 138  
Start Analysis Time Range [s] : 33  
End Analysis Time Range [s] : 137.5  
Ladder Concentration [pg/μl] : 1950  
Uses Standard Area for Ladder Fragments  
Lower Marker Concentration [pg/μl] : 125  
Upper Marker Concentration [pg/μl] : 75  
Used Upper Marker for Quantitation  
Standard Curve Fit is Point to Point  
Show Data Aligned to Lower and Upper Marker

**Integrator Settings**

Integration Start Time [s] : 33.05  
Integration End Time [s] : 137  
Slope Threshold : 0.8  
Height Threshold [FU] : 5  
Area Threshold : 0.1  
Width Threshold [s] : 0.6  
Baseline Plateau [s] : 0.5

**Filter Settings**

Filter Width [s] : 0.5  
Polynomial Order : 4

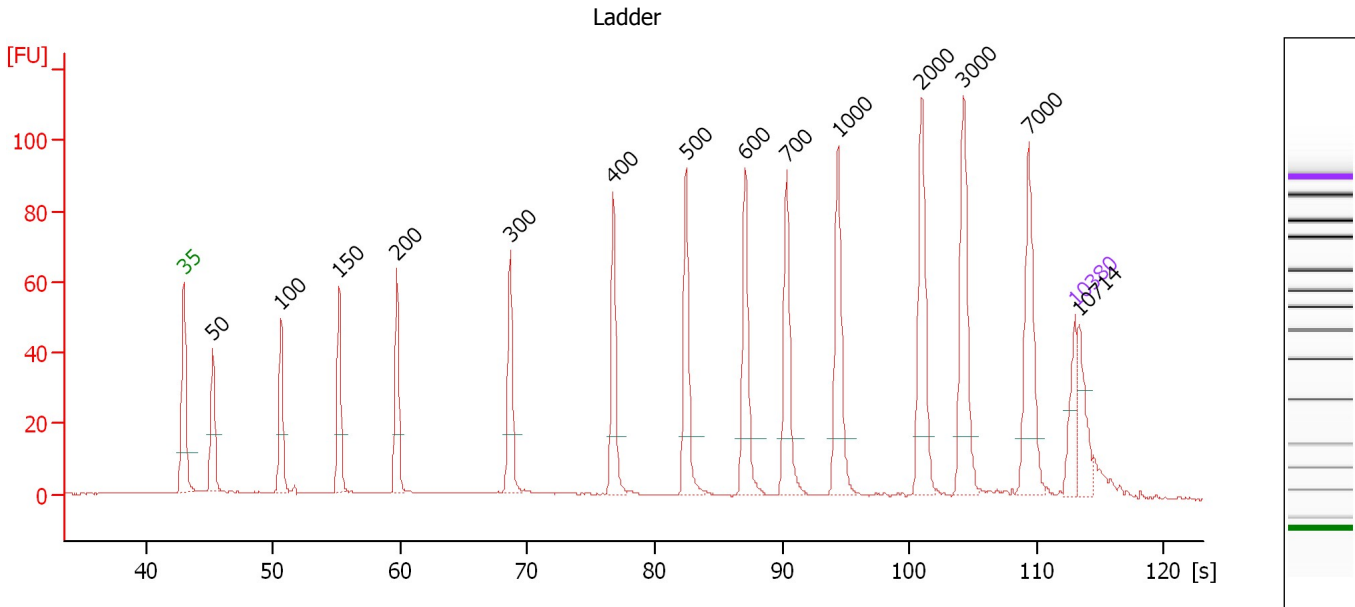
**Ladder**

Ladder Peak	Size	Area
1	35	160
2	50	210
3	100	208
4	150	221
5	200	242
6	300	270
7	400	305
8	500	306
9	600	336
10	700	321
11	1000	366
12	2000	413
13	3000	411
14	7000	400
15	10380	214

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.2

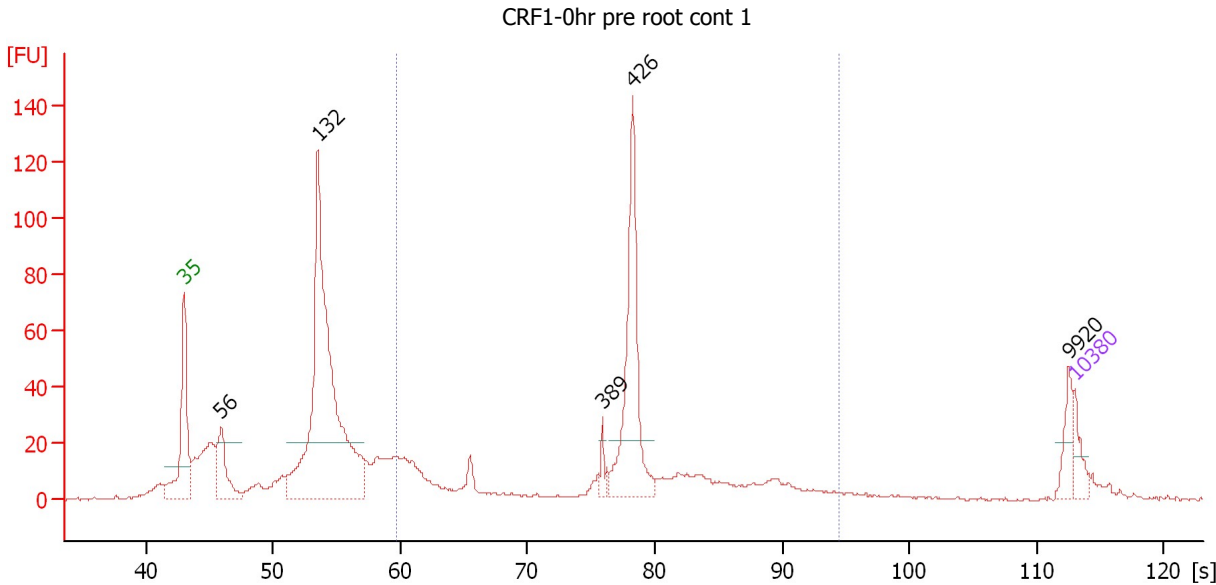
**Peak table for Ladder**

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	50	150.00	4,545.5	Ladder Peak
3	100	150.00	2,272.7	Ladder Peak
4	150	150.00	1,515.2	Ladder Peak
5	200	150.00	1,136.4	Ladder Peak
6	300	150.00	757.6	Ladder Peak
7	400	150.00	568.2	Ladder Peak
8	500	150.00	454.5	Ladder Peak
9	600	150.00	378.8	Ladder Peak
10	700	150.00	324.7	Ladder Peak
11	1,000	150.00	227.3	Ladder Peak
12	2,000	150.00	113.6	Ladder Peak
13	3,000	150.00	75.8	Ladder Peak
14	7,000	150.00	32.5	Ladder Peak
15	10,380	75.00	10.9	Upper Marker
16	10,714	0.00	0.0	

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 1 : CRF1-0hr pre root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 1 : CRF1-0hr pre root cont 1**

Number of peaks found: 5                      Corr. Area 1: 421.6  
 Noise: 0.5

**Peak table for sample 1 : CRF1-0hr pre root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	56	281.61	7,582.9	
3	132	2,235.92	25,694.8	
4	389	48.66	189.3	
5	426	702.45	2,496.2	
6	9,920	84.36	12.9	
7	10,380	75.00	10.9	Upper Marker

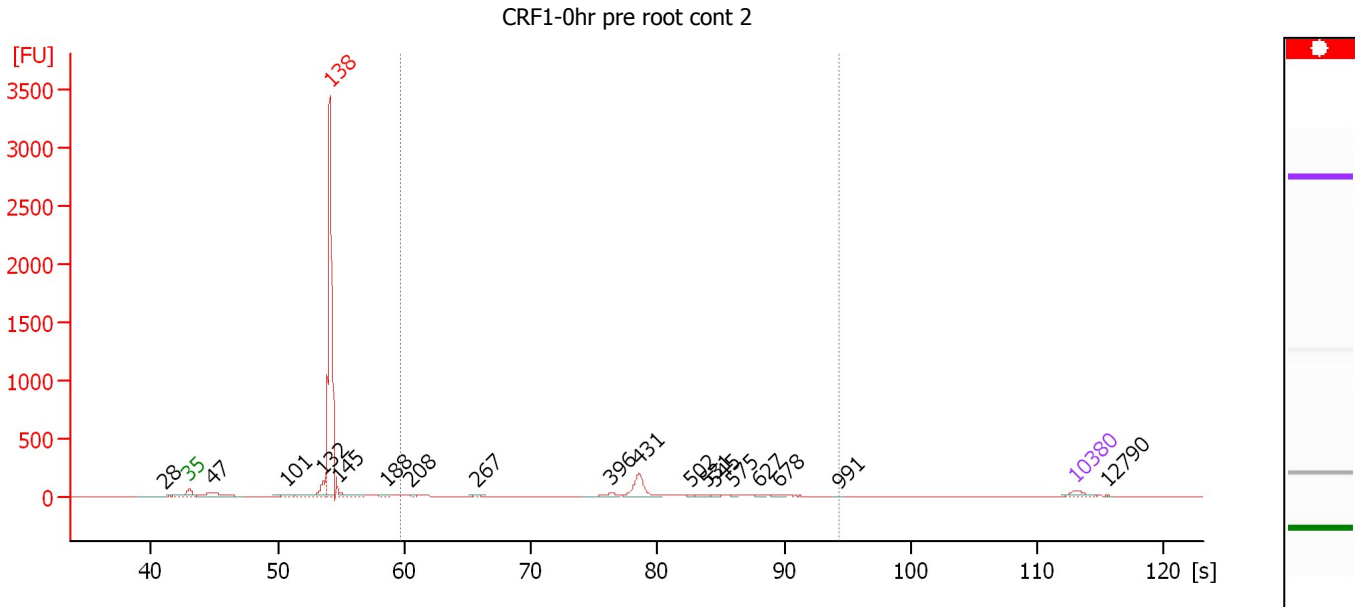
**Region table for sample 1 : CRF1-0hr pre root cont 1**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	7,327.4	434	1,750.25	1,000	421.6	37	33.2	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : CRF1-0hr pre root cont 2**

Number of peaks found: 18                      Corr. Area 1: 459.4  
 Noise: 0.3

**Peak table for sample 2 : CRF1-0hr pre root cont 2**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	28	0.00	0.0	
2	35	125.00	5,411.3	Lower Marker
3	47	333.47	10,789.1	
4	101	56.70	849.6	
5	132	373.49	4,298.1	
6	138	5,017.58	55,022.3	excluded peak
7	145	165.28	1,724.9	
8	188	29.35	237.1	
9	208	15.87	115.4	
10	267	25.47	144.6	
11	396	76.31	292.3	
12	431	429.73	1,509.7	
13	502	20.12	60.7	
14	531	27.52	78.5	
15	545	16.33	45.4	
16	575	11.65	30.7	
17	627	12.77	30.8	
18	678	20.48	45.8	
19	991	7.62	11.7	
20	10,380	75.00	10.9	Upper Marker
21	12,790	0.00	0.0	

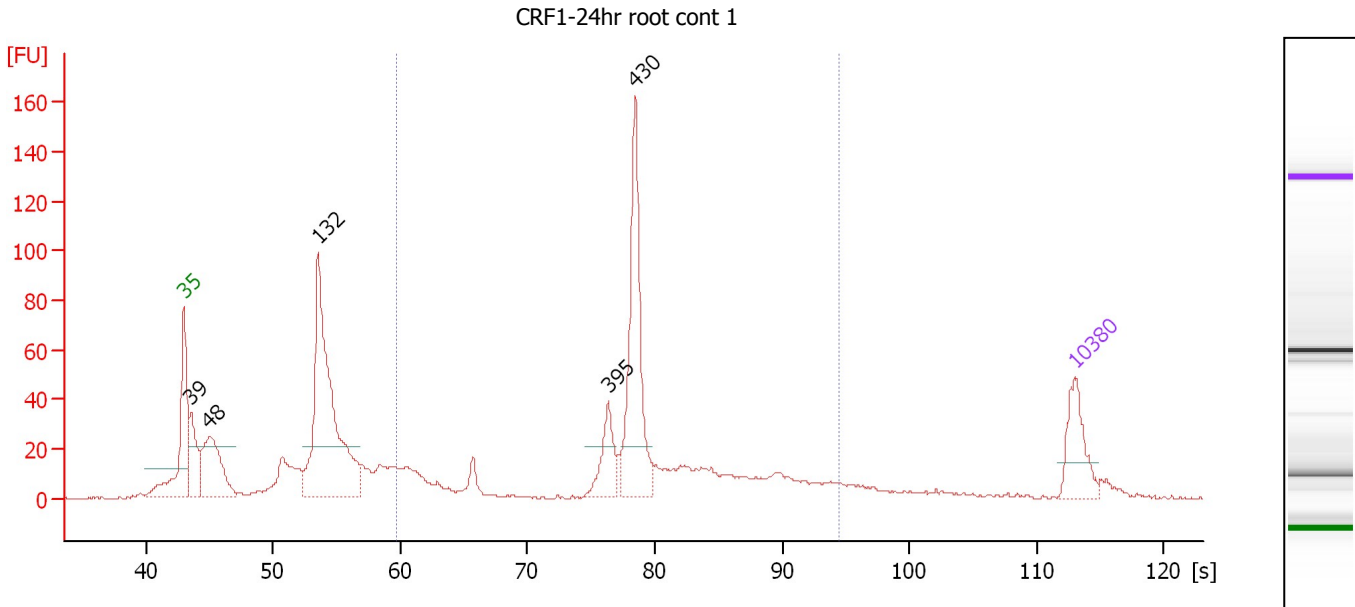
**Region table for sample 2 : CRF1-0hr pre root cont 2**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	2,918.3	462	788.53	1,000	459.4	15	27.5	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 3 : CRF1-24hr root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 3 : CRF1-24hr root cont 1**

Number of peaks found: 5                      Corr. Area 1: 519.5  
 Noise: 0.4

**Peak table for sample 3 : CRF1-24hr root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	39	126.36	4,946.0	
3	48	219.55	6,887.8	
4	132	648.64	7,454.1	
5	395	84.67	324.4	
6	430	316.10	1,113.2	
7	10,380	75.00	10.9	Upper Marker

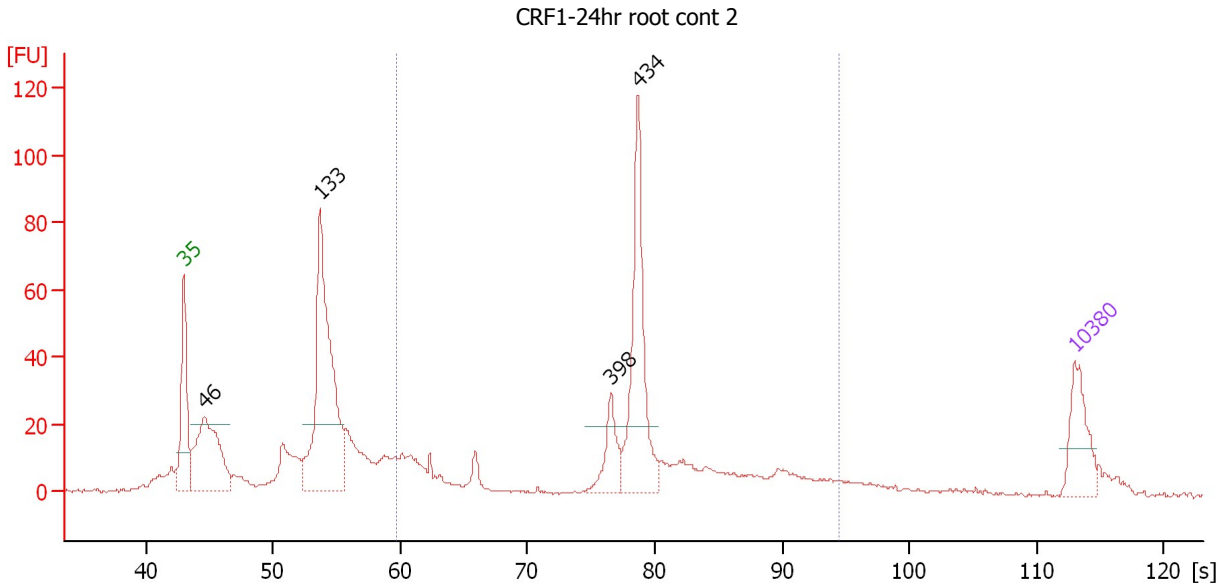
**Region table for sample 3 : CRF1-24hr root cont 1**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	3,211.1	462	827.46	1,000	519.5	44	32.3	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 4 : CRF1-24hr root cont 2**

Height Threshold [FU] : 20

**Overall Results for sample 4 : CRF1-24hr root cont 2**

Number of peaks found: 4                      Corr. Area 1: 390.6  
 Noise: 0.4

**Peak table for sample 4 : CRF1-24hr root cont 2**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	46	299.81	9,919.4	
3	133	573.65	6,517.9	
4	398	78.30	298.4	
5	434	288.10	1,005.3	
6	10,380	75.00	10.9	Upper Marker

**Region table for sample 4 : CRF1-24hr root cont 2**

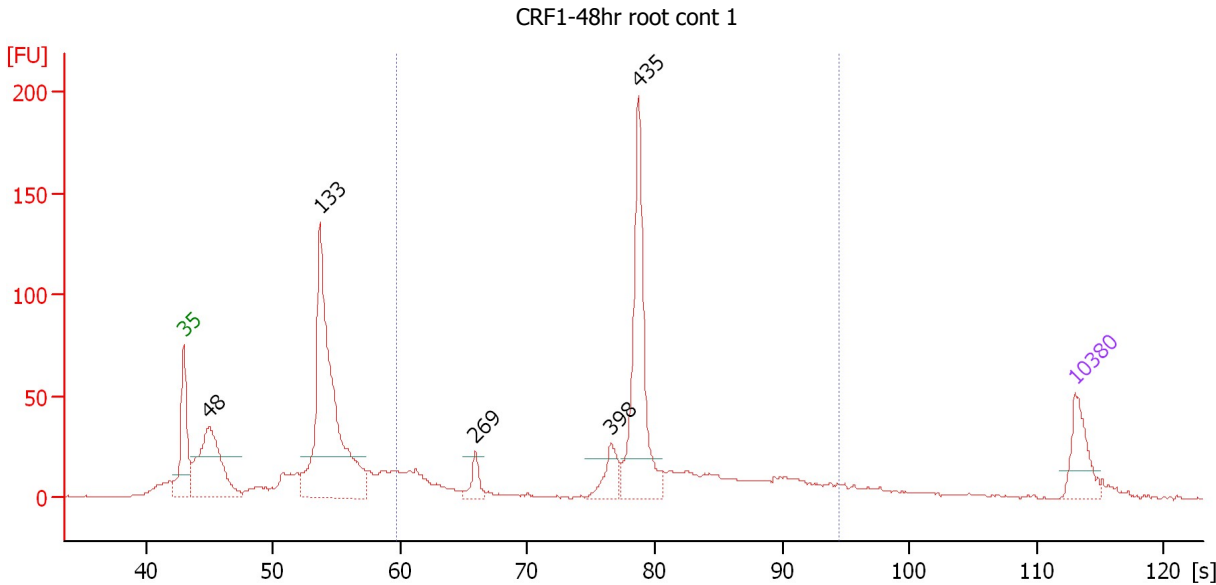
From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	2,991.7	456	749.24	1,000	390.6	41	33.5	Blue



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 5 : CRF1-48hr root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 5 : CRF1-48hr root cont 1**

Number of peaks found: 5                      Corr. Area 1: 560.3  
 Noise: 0.5

**Peak table for sample 5 : CRF1-48hr root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	48	380.50	11,943.3	
3	133	856.86	9,725.0	
4	269	44.79	252.1	
5	398	66.42	252.6	
6	435	395.30	1,375.9	
7	10,380	75.00	10.9	Upper Marker

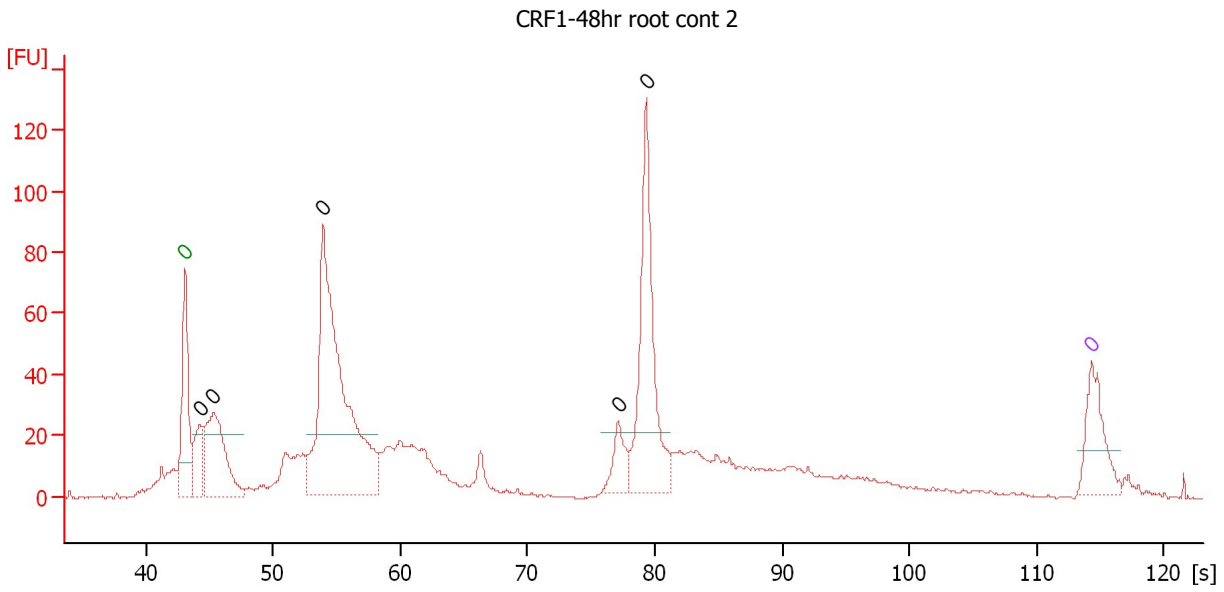
**Region table for sample 5 : CRF1-48hr root cont 1**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	3,492.4	462	896.90	1,000	560.3	42	32.6	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 6 : CRF1-48hr root cont 2**

End Analysis Time Range [s] : 106.05      Height Threshold [FU] : 20

**Overall Results for sample 6 : CRF1-48hr root cont 2**

Number of peaks found: 5      Noise: 0.4

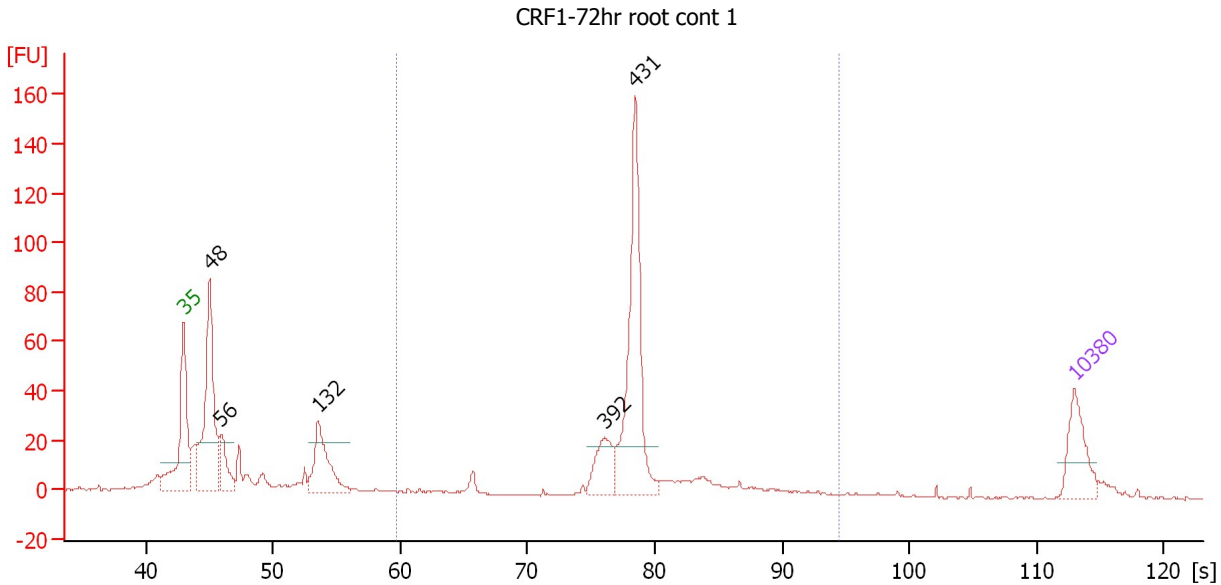
**Peak table for sample 6 : CRF1-48hr root cont 2**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	0	125.00	0.0	Lower Marker
2	0	144.86	0.0	
3	0	387.16	0.0	
4	0	1,255.34	0.0	
5	0	120.16	0.0	
6	0	664.38	0.0	
7	0	75.00	0.0	Upper Marker

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 7 : CRF1-72hr root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 7 : CRF1-72hr root cont 1**

Number of peaks found: 5                      Corr. Area 1: 327.1  
 Noise: 0.5

**Peak table for sample 7 : CRF1-72hr root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	48	394.22	12,328.5	
3	56	85.48	2,308.1	
4	132	172.89	1,987.1	
5	392	87.29	337.6	
6	431	384.82	1,353.6	
7	10,380	75.00	10.9	Upper Marker

**Region table for sample 7 : CRF1-72hr root cont 1**

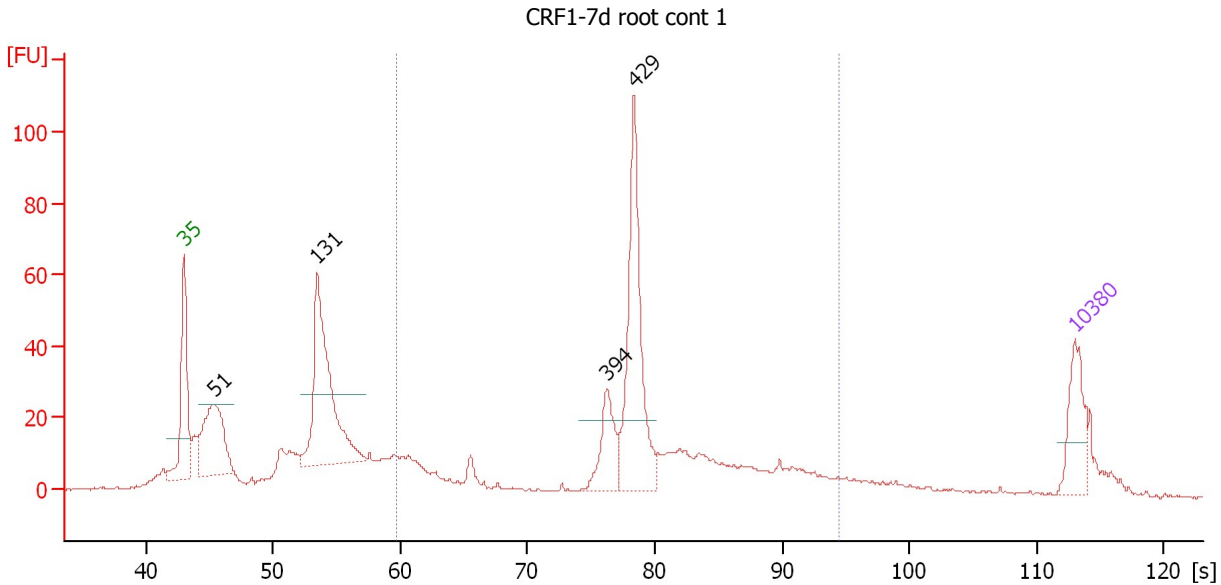
From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	2,084.2	443	585.29	1,000	327.1	47	18.1	Blue



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 9 : CRF1-7d root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 9 : CRF1-7d root cont 1**

Number of peaks found: 4                      Corr. Area 1: 427.0  
 Noise: 0.3

**Peak table for sample 9 : CRF1-7d root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	51	250.77	7,465.1	
3	131	428.15	4,941.5	
4	394	96.08	369.6	
5	429	333.23	1,176.6	
6	10,380	75.00	10.9	Upper Marker

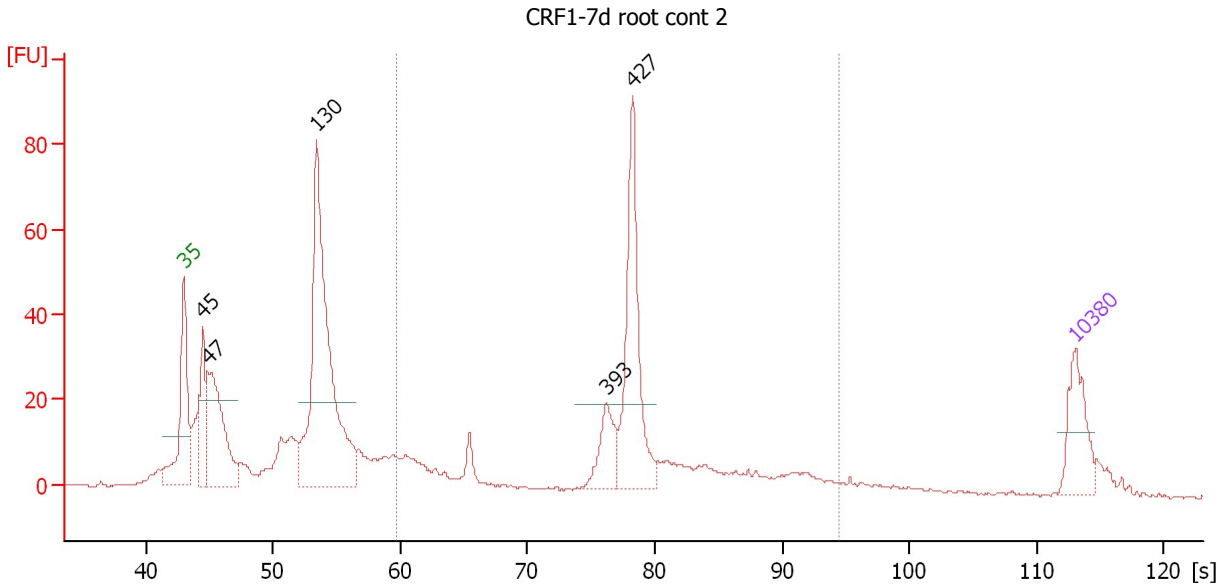
**Region table for sample 9 : CRF1-7d root cont 1**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	3,466.7	463	896.37	1,000	427.0	44	32.4	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 10 : CRF1-7d root cont 2**

Height Threshold [FU] : 20

**Overall Results for sample 10 : CRF1-7d root cont 2**

Number of peaks found: 5                      Corr. Area 1: 288.0  
 Noise: 0.4

**Peak table for sample 10 : CRF1-7d root cont 2**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	45	141.18	4,778.9	
3	47	275.56	8,798.2	
4	130	713.22	8,287.6	
5	393	82.65	318.6	
6	427	281.50	1,000.0	
7	10,380	75.00	10.9	Upper Marker

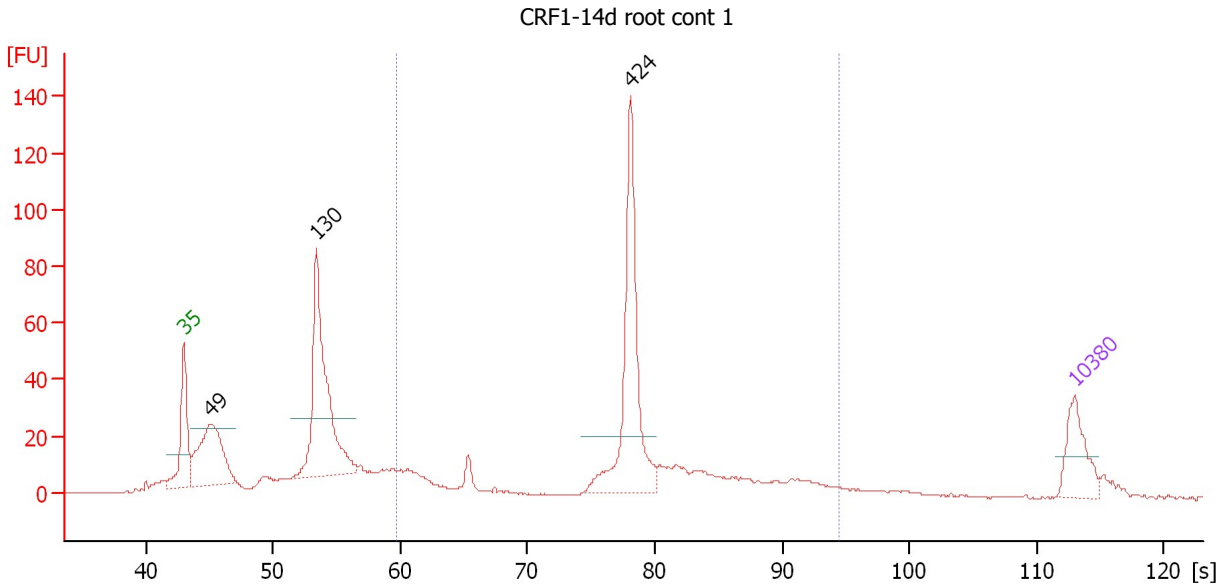
**Region table for sample 10 : CRF1-7d root cont 2**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	2,607.1	444	651.48	1,000	288.0	36	31.7	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Electropherogram Summary Continued ...**



**Setpoint Deviations for sample 11 : CRF1-14d root cont 1**

Height Threshold [FU] : 20

**Overall Results for sample 11 : CRF1-14d root cont 1**

Number of peaks found: 3                      Corr. Area 1: 370.0  
 Noise: 0.3

**Peak table for sample 11 : CRF1-14d root cont 1**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	284.57	8,750.8	
3	130	482.09	5,603.5	
4	424	378.55	1,351.7	
5	10,380	75.00	10.9	Upper Marker

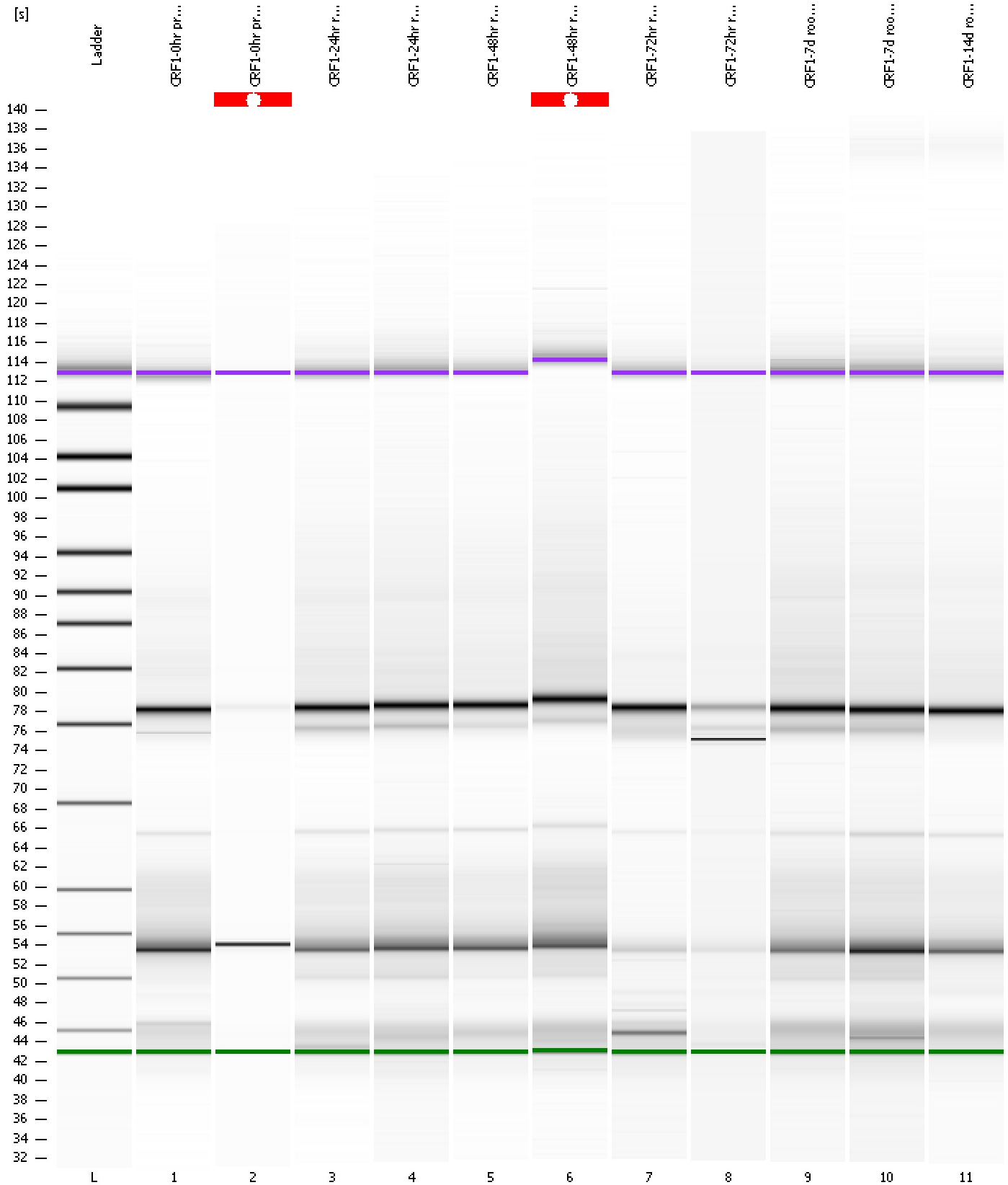
**Region table for sample 11 : CRF1-14d root cont 1**

From [bp]	Molarity [pmol/l]	Average Size [bp]	Conc. [pg/μl]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	2,819.8	456	726.68	1,000	370.0	43	31.2	Blue

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
Modified: 3/21/2012 2:58:03 PM

**Gel Image**





Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2012-03-21\2012-03-21\_004.xad

Created: 3/21/2012 2:16:05 PM  
 Modified: 3/21/2012 2:58:03 PM

**Run Logbook**

Description	Number	Source	Category	Sub Category	Time	Time Zone	User	Host
Run ended on port 1 (Number of wells acquired: 12)		Instrument	Run		3/21/2012 2:57:23 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Instrument error occurred on port 1, Optical signal too high (1605h)	559	Instrument	Run	Sample 2	3/21/2012 2:30:40 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2012-03-21\2012-03-21_004.xad)		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		3/21/2012 2:16:11 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1